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J1036 U.S. PTO 09/897869 07/02/01

# Bescheinigung | Certificate | Attestation

Die angehefteten Unterlagen stimmen mit der ursprünglich eingereichten Fassung der auf dem nächsten Blatt bezeichneten europäischen Patentanmeldung überein.

The attached documents are exact copies of the European patent application described on the following page, as originally filed.

Les documents fixés à cette attestation sont conformes à la version initialement déposée de la demande de brevet européen spécifiée à la page suivante.

**Patentanmeldung Nr. | Patent application No. | Demande de brevet n°**

00114340.3

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

I.L.C. HATTEN-HECKMAN

DEN HAAG, DEN
THE HAGUE, 17/01/01
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# Blatt 2 d r Bescheinigung
# Sheet 2 of the certificate
# Page 2 de l'attestation

Anmeldung Nr.:
Application no.: 00114340.3
Demande n°:

Anmeldetag:
Date of filing: 04/07/00
Date de dépôt:

Anmelder:
Applicant(s):
Demandeur(s):
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UNITED STATES OF AMERICA

Bezeichnung der Erfindung:
Title of the invention:
Titre de l'invention:
Personal digital shopping trolley

In Anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s) revendiquée(s)

| Staat: State: Pays: | Tag: Date: Date: | Aktenzeichen: File no. Numéro de dépôt: |
|---|---|---|

Internationale Patentklassifikation:
International Patent classification:
Classification internationale des brevets:
/

Am Anmeldetag benannte Vertragstaaten:
Contracting states designated at date of filing: AT/BE/CH/CY/DE/DK/ES/FI/FR/GB/GR/IE/IT/LI/LU/MC/NL/PT/SE/TR
Etats contractants désignés lors du depôt:

Bemerkungen:
Remarks:
Remarques:

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D E S C R I P T I O N

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04. Juli 2000

**Personal Digital Shopping Trolley**

## 1. BACKGROUND OF THE INVENTION

### 1.1 FIELD OF THE INVENTION

The present invention relates to computer-aided shopping systems.

### 1.2 DESCRIPTION AND DISADVANTAGES OF PRIOR ART

Shopping is a motor of economy.

The most common way for shopping is to stroll through one or more shops in which a person looks for the goods he or she is interested in. Most products of daily life consumption are bought in this way. The advantage of said kind of real shopping is that the client who is interested in buying a product can see the product in reality before he decides to buy it. The problem with real shopping, however, is that it costs much time for the client when he wants to compare the products of several vendors before any purchase decision. Then he must enter a plurality of shops search the products gather all relevant product information compare said information and finally go back to that particular shop which made the best offer for the specific needs of the client.

In order to avoid a large time consumption a catalogue-based shopping is also practiced broadly. In a catalogue all relevant products offered by a specific vendor are visualized on paper form including a short description of their technical features and including price information. The disadvantage is that the client can neither see nor touch the product before he decides to purchase or at least order it, respectively.

A third way for shopping the so-called Internet-shopping which is a kind of electronic form of catalogue shopping. In most cases of Internet-shopping the catalogue of products is presented and accessible on the website of the vendor. The advantage is that product information is very quickly available for the client without any need to order a catalogue first, and for the vendor the cost is saved necessary to produce and distribute colored print media as it is a product catalogue.

These three basic ways of shopping are, however, not disjunct. Instead, with increasing acceptance of mobile computing devices, as for example a handy, a palm pilot or an organizer some computer-aided shopping systems emerged which try to combine the advantages offered by some of the above mentioned ways for shopping.

An example is a software/hardware combination in form of a palm pilot which has installed some piece of software, called easy-order-safe-way. By aid of the palm pilot clients are enabled to select their desired products at home from a list, to issue an order comprising said selected products to a service provider who collects the products from one or more shops and puts them into one packet which the client can pick up at the service provider, or in a particular shop, respectively. Such a solution integrating PDA, however, implements only proprietary applications for use in a single store or a small plurality of them.

An alternative provided by said prior art technique is to use the palm pilot for scanning the products to be purchased in a shop and putting them into a shopping cart. This helps to avoid queues in front of the cashier because the products need not be put one by one onto the conveyor belt and scanned-in one-by-one.

Said latter prior art technology, however, fails to combine all advantages provided by the above mentioned three systems because

the client is not enabled to see or touch the products before purchase in the first alternative mentioned above or, in the second alternative he is not enabled to compare the offers with offers of one or more competitors of the vendor.

Thus, there is no approach, which really integrates virtual and real shopping sites. If, for example, the consumer wants to compare offers from different vendors or just browse the store and submit the order later, the only way to do this is to take a piece of paper and write the information down. He then can call the shop from at home to order specific items.

## 1.3 OBJECTS OF THE INVENTION

It is thus an object of the present invention to provide a computer-aided shopping system which is more flexible and more useful for the client.

## 2. SUMMARY AND ADVANTAGES OF THE INVENTION

This object of the invention is achieved by the features stated in enclosed independent claims. Further advantageous arrangements and embodiments of the invention are set forth in the respective subclaims.

According to its basic aspect the present invention provides for the client to import relevant product information like price base, fixed product properties like color, technical information of the product, etc. into a mobile computing device, such as a PDA, or even a smaller device just having an input interface for reading some product information, a memory for storing said product information and an output interface for further processing said product information and, optionally a display for displaying some control information useful for the client during his walk through the shop and gathering product information.

Thus, it is possible for the client to walk through the shop having a mobile computing device in his hand and to scan all relevant product information he needs simply by entering the product-ID via any kind of adequate interface between its mobile device and the shop's enterprise resources planning system, abbreviated herein as ERP system. This is to be basically understood herein as any kind of backend application, integrated solution, database application, etc., which is used by the shop for managing any services in context with their products, i.e., ordering from manufacturer, stock management, store supervision, price management, payment management, etc.. Thus, by said ERP linkage, a large variety of relevant product information is quickly accessible for the client, far more than representable on a prior art pricing label, and can be easily updated by the shop management, e.g., client-related discount, or earliest delivery date. The customer only has to go to a so-called Product Contact Point and/or Service Point to exchange data between his PDST and the shop's backend systems and use some kind of protocol for data exchange or data requesting from the backend system, advantageously a standardized protocol as it is referred to later.

Dependent on the type of offered goods the required infrastructure of Product Contact Points and Service Points can be scaled. Applying barcodes in "bricks-and-mortar" stores is definitely cheaper, but offers less possibilities than for example infrared ports. But the lack in functionality of barcodes can be substituted by a reasonable infrastructure of Service Points ditributed in the store.

After importing said product information the customer is enabled to retrieve it at a later point in time independent of the shop's electronic shopping system.

In other words, with the help of a client-related mobile

computing device having an adequate interface to a product data source the client is enabled to easily gather any relevant product information including technical information about the product or variations of it, he can store said information without any purchase decision necessary to be taken in the shop and he is enabled to retrieve said information including technical information for example at home by exporting the product information via a standard interface onto his personal desktop PC for further analysis or revision. Thus, the advantages of real shopping are combined with the advantages of any kind of virtual shopping because the client himself selects any product data he is actually interested in and he can touch the products before purchase.

Further, via the same interface product data and sales condition data retrieved from the Internet web site of one or more shops can be imported into the mobile device. This is helpful because the user has an immediate access to said additional data when he later enters into a further competitor's shop. Knowing the price, the sales conditions and maybe technical features of the products from one or more competitors the user is enabled to make a well-considered purchase decision - even immediately in the shop - if required.

According to a further aspect of the present invention said basic approach can include advantageously the import of any kind of further sales-related additional information, of delivery-related information like delivery date, delivery conditions, delivery price supplements, creating an order for said product and sending said order to the associated vendor, and even to initiated payment for said product. Thus, the advantages of online-shopping can easily appended to the basic approach described above.

According to a further advantageous aspect of the present invention product information can be gathered at a plurality of

different shops associated with different vendors. After the client has exported the gathered information from the device onto his PC at home via any suitable interface he can evaluate the different offers easily by running an inventional evaluation tool which can simply be a viewer which displays all relevant text and image information in a way easy to understand for the client.

Further, a data import facility is provided advantageously from the Internet onto the device. Thus, the user can import the product information from a competitor and access it easily at the vendor in his shop for compare purposes.

Advantageously a programming concept like XML can be used for implementing the interface which receives the product information from the shop's proprietary ERP system and represents it in the mobile device associated to the client.

Thus, in the shop a counter part interface is provided which implements an export of said product information which advantageously is supported by a standardized interface.

Thus, by aid of the present invention the following scenario can be realized: In online-shops as well as in a conventional store the consumer can load the product information, including price and description, onto a virtual shopping basket of his hand-held computing device, his so-called 'Personal Digital Shopping Trolley', further abbreviated herein as PDST. The customer can easily compare different offers from different vendors where and whenever he might want to. After making up a decision which products he wants to buy, he can create the order and send it to the merchant. Additional services a Personal Digital Shopping Trolley can offer are secure payment and setting up delivery arrangement.

The present invention brings along, however, further secondary

economical effects. It allows to apply the concept of so-called Service Portals to virtual and non-virtual shopping. Thus, an access interface can be used by different content providers to expose their offering to customers.

From the merchants point of view, it allows to split up and separate product information, sales, delivery and payment management into independent pieces which can be provided by different parties. From the customers point of view it integrates the entire shopping process seamlessly - including internet shopping and traditional store-based shopping.

In a certain point of view the PDST is comparable to a regular shopping trolley. The consumer can load goods into it, he can check and compare the current contents and unload again. Finally when he is set, he can go to a check-out station and place orders, arrange deliveries and pay for products.

It is a remarkable advantage that the customer is not limited to the offers of one store, but can stroll through multiple stores including even Internet shopping sites. Extensive downloadable product descriptions replace the traditional small label attached to products in today's stores. Up-to-date information on e.g., availability and delivery date save queuing for a clerk. Instead of loading heavy good into the trolley the client just moves a virtual link to his virtual shopping basket. Instead of being limited to the available often crowded check-out station for paying, he can access his preferred payment service provider through the Internet later on when being home again. In addition he could also track the status of his orders or take advantage of special rates and payment conditions stored within in personal customer e-vault.

The different merchants with their different price and service offerings are integrated seamlessly into the PDST and the underlying inventive concepts. Although the entire shopping

activity appears to the customer as one integrated process, all single steps like product offering, consulting, pricing, payment and delivery can be performed by different entities, i.e., providers -if desired. Single steps of the shopping process can be sourced out easily without effecting the customer. This allows upcoming service portals to be involved. For example a delivery or payment service could be advantageously applied within this invention.

The advantages of the proposed invention can be summarized to the following items:

*Customer Convenience* - The present invention brings the convenience of online-shopping to "bricks-and-mortar" stores. Product information, selection, order, delivery, payment services are offered through one defined standard interface - at any time and almost any place and independent from the entity who offers the service and allowing the client to compare multiple competitive offers.

*Customer Mobility* - The PDST integrates shopping in the real and in the virtual world and it seamlessly integrates shopping related services for the customer into a mobile shopping scenario. All goods chosen from an enabled virtual or non-virtual shopping site are stored on the customer's mobile pervasive device, until the customer decides to buy or reject the selection. He can carry around and manage all collected offers at any time from any virtual and non-virtual shopping site which allows him to rethink the expense at home and to order whenever he likes to.

*Customer Flexibility:* Being able to arrange delivery, configure orders or choose the preferred payment method increases the customers flexibility. He can combine the advantages of support by trained staff, online store and Internet information as he likes to.

*Merchant Flexibility:* By allowing online connections between the customers PDST and his ERP system, the merchant can provide flexible up-to-date information specific to individual customers and specific to individual discount offers. Enabling the customer to configure his orders saves costs and time and reduces the required staff.

*Merchant Added-Value* - Individual customer services combined with loyalty programs and enhanced convenience represent an important added-value for differentiation.

*Merchant Outsourcing Opportunities* and *Merchant Cooperation Opportunities* - The possibility to separate different parts of the entire shopping process without impact to the customer, allows strategic outsourcing as well as new cooperation alternatives between different merchants and other service providers such as financial institutions.

*Merchant Internet Offering* - The possibility to integrate Internet and store based shopping into a world-wide shopping network offers new opportunities for growth and impacts current Internet shopping sites.

*Scalable Investments:* By using common pervasive devices like mobile phones or PDAs for installing the PDST application, the merchant can delegate the significant investment of the needed devices to the customer. Using his own familiar device with a standardized PDST application the customer does not have to install and learn a new shopping application at each shop, nor he has to enter his personal information in a wide variety of systems again and again.

## 3. BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and is

not limited by the shape of the figures of the accompanying drawings in which:

Fig. 1 is a schematic structural representation showing the most essential components contributing to the inventional shopping communication method according to a preferred embodiment thereof,

Fig. 2 A,B,C are schematic functional representations of said embodiment revealing control flow aspects of a exemplarily chosen instantiation thereof,

Fig. 3 is a schematic functional representation giving an overview of fig. 2,

Fig. 4 is a schematic functional representation of said embodiment focusing its large flexibility and variability.

## 4. DESCRIPTION OF THE PREFERRED EMBODIMENT

With general reference to the figures and with special reference now to Fig. 1 the *Personal Digital Shopping Trolley* 10 (PDST) is a piece of software that the consumer uses which is implemented on a pervasive device 11, depicted schematically like a Palm Pilot, Mobile Phone, PDA, etc..

While the consumer is browsing through a virtual shop 12 or is walking through a real life store 14, he can get information assigned to a product, in which he's interested and interact with the respective merchant(s) for arranging order, delivery and price.

A real life store 14 has equipped its product exhibition with a plurality *Product Contact Points 16*, which offer PDST devices 11 the required access to product and merchant data.

In a virtual store this data is exchanged through e.g., the Internet to the customers Internet client computer which usually a personal computer 18, which acts as a Product Contact Point as well. In both cases the Product Contact Point can be contacted by the PDST device using common physical interfaces 20 such as infrared, contactless smart cards, barcode or serial ports, etc..
For the data exchange between Product Contact Points 16 and PDST device 11, a logical *PDST Interface*, further referred to herein and abbreviated as PDSTi is defined. Said PDSTi offers functions for getting product, vendor and personal customer information. It allows to access the merchant's ERP system in order to retrieve online information such as price or availability. Additionally, the consumer can access a personal customer e-vault on the merchant system. This e-vault can store information about loyalty points, discounts, voucher or special rates on the prices.

The PDSTi further advantageously includes functions for obtaining descriptive information about product and vendor, for loading the product into the virtual shopping basket, i.e., some storage means of the PDST, for obtaining the price, arranging the delivery, for confirming the order and for performing a secure payment. Advantageously said interface uses XML programming techniques in a standardized way.

Due to the different capabilities of the different physical interfaces 20 depicted in fig. 1, different subsets of the PDSTi functionality will be supported. For example a barcode allows only a single-direction communication e.g., preventing the customer from sending an order.

Contactless smart cards attached to the product do not allow online access to the shop's backend systems which might be needed for delivery arrangements. Choosing a cheaper physical

interface technology such as barcode is preferred in order to reduce the merchant's investment.

Selecting, however, a very sophisticated technology like an infrared port, is definitely appropriate for very expensive products like e.g., furniture or cars, where up-to-date information about the product is an essential service for the client.

Beside the Product Contact Points located at the exposed product itself, additional multifunctional *Service Points* can be located in the store, in dedicated service centers or in the Internet, as well. Service Points 16 can be logically regarded as product independent Product Contact Points. They offer the full functionality of the PDST Interface 20- including the online-access to the merchant system, which is needed for ordering, payment and delivery. Service Points 16 can be used any time when working through the shopping basket on the PDST, e.g., after a long shopping day at the desktop PC 18 at home. If the installed Product Contact Points use only simple physical interfaces such as infrared, the Service Points are the only possibility for obtaining online access to the merchant systems.

With reference to figs. 2A, 2B, and 3 schematic functional representations of a sample embodiment of the inventional method, i.e., an exemplarily chosen instantiation thereof is given next revealing some control of its control flow aspects.

In a large furniture shop, the consumer is walking through the shop. When he is interested in a particular product, or product group exhibited, he downloads the respective product information from the Product Contact Point placed next to the products into his PDST, in a read process, step 210.

Assuming the physical interface of the Product Contact Points is an infrared port, he can extend the information service,

decision 215 - if desired. A respective choice of offered services is displayed on the display of th ePDST, step 220. First, the user selects the delivery information service by simply selecting a respective item on the display, step 225.

Said action comprising the product ID triggers a connection to the vendor's ERP system, as it was mentioned further above, step 230. Then, the desired data is read out to the PDAST mobile device (MD), step 235, and the client is now allowed to the availability of the product, i.e., when and by which service provider the product can be delivered to him.

Further, the client selects th epersonal loyalty conditions, step 240. Thus, a connection -step 245 - is provided to the the shop's client database in which preferred clients are stored with said particular loyalty conditions. Thus, the client accesses online his personal customer e-vault storing his individual payment conditions and the loyalty programs he's participating in, by reading out the respective dataset(s), step 250. Optionally, when the client decides - the respective data gathered in step 210, 235, and 250 are stored with the product ID in a storage of the mobile device.

Then, the client goes on strolling for different further products, Yes branch od decision 260 and the same or a similar procedure can be performed repeatedly.

In the no-branch of decision 260 a further decision 262 - see fig. 3 - is offered to the client. The client is offered to extend his shopping tour supported with PC-facilities in order to let the data be analyzed or evaluated on his desktop PC at home with further data concerning similar products offered by different vendors. Said extension can be basically performed via an Internet search, or via a real life further walk through a respective shop of a different vendor.

Said extension is described with reference to fig. 2 C.

First, however, the case is described in which the client wants to perform a purchase of at least some of the selected products immediately in the shop in which he walked through, see fig. 2 A, without a further compare with products from different vendors. Thus, the no-branch of fig. 3 and alternative 1 in fig. 2 A will be selected by the client. Before any purchase decision, the client displays the total sum of prizes associated with the selected products, step 265. Then he displays the list of products, step 270. Advantageously, said product list is grouped by the semantic context of the products. I.e. if for a selected product there are one or more supplementary products, they will be displayed immediately after said product in the list.

Then, the client is enabled to definitely select the products for purchase, step 275. Of cause, he is offered the possibility, not to buy one or more products. Advantageously, the client is provided with an option to store the product data even in the case, when he decides not to buy them, because may be at some later point in time he might need the gathered data for a later purchase decision, or for a later processing, may be on his desktop PC - see description of fig. 2 C.

Thus, finally the client has selected a well-defined list of products for purchase. Then, an order representing the selected products is transferred to the vendors ERP-system, step 280. This can be done either at the cashier, or at any of the above mentioned service points, or even via Internet at home.

Then, the respective payment transactions are triggered and can be performed according to prior art methods, step 285.

In the yes-branch of fig. 3, step 262 the shopping tour is extended as it was mentioned further above. This is illustrated

with reference to fig. 2 C: in said alternative which is depicted as alternative 2 in fig. 2 A the client leaves the shop without having performed any purchase. In this case he just has filled up the PDST with a lot of product information, i.e. product data which he exports now onto his PC at home, step 290. In order to do that he advantageously is allowed to use a program which implements the above-mentioned standardized logical interface. Thus, the use of the program is easy and allows the export of data which were gathered by the PDST, and if desired, which are gathered from the Internet, as well.

According to a further, preferred aspect of the present invention, in a step 292 the product data gathered before can be viewed for further analysis, after a respective viewing tool has been started, step 292. Said viewing tool uses the same standardized interface and can thus display all product data stored in a PDST, or downloaded via the Internet during a virtual shopping tour, as well. In a further extension of said tool prizes can be automatically compared by the tool as well as delivery dates and further product information, including technical one.

Then, in a step 294, the client can generate a list of products which he wants to buy. In this respect, the same options can be provided as described with reference to fig. 2 B.

Then, a respective order can be transferred via Internet to the concerned company, step 296. Alternatively, the selected products can be imported to the PDST in order to be able to read the data again, when no purchase was performed in spite of a subsequent shopping tour, may be in a shop of a further different vendor. Then, it is advantageous to have the product data present in order to be able to compare them with the product data of the new competitor.

It should be noted, that the step of transferring the order data

and the step of triggering the payment transactions, 298, can be done via a wireless interface, too, for example via GSM.

Fig. 4 illustrates the large flexibility and variability of the present invention. Fig. 4 is basically a representation of a plurality of different possibilities in which products can be explored by the client via strolling through one or more shops, see upper left corner of the X or via Internet strolling, see upper right corner, followed by an ordering and payment process which are both able to be effected by the mobile device, see bottom left corner or by Internet, see bottom right corner. As reveals from the drawing the client can use the PDST and the inventional method for repeatedly gathering data during a real life strolling or an virtual strolling process, see arrow 41 with a respective store process of the gathered data.

Arrow 42 shows the way of processing with immediate purchase in the shop as it was described in context with fig. 2 A.

Arrow 43 shows a sequence which comprises an Internet strolling process followed by an ordering/payment process triggered by the mobile device. The arrow 44, finally represents a case as arrow 43 describes but in which the Internet is used for ordering and payment. As reveals from the above description, any product data which once has been stored on the mobile device can be evaluated with the help of a PC, into which the product data can be exported via one of the above mentioned interfaces, e.g. the infra-red interface. It should be added that any of the above described processes may be aborted at the clients free will, when ever he wants to do that, except when the order has not yet been transferred to the vendors ERP system, steps 280, 296.

In the foregoing specification the invention has been described with reference to a specific exemplary embodiment thereof. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit

and scope of the invention as set forth in the appended claims. The specification and drawings are accordingly to be regarded as illustrative rather than in a restrictive sense.

The present invention can be realized in hardware, software, or a combination of hardware and software. A shopping tool according to the present invention can be realized in a centralized fashion in one computer system, or in a distributed fashion where different elements are spread across several interconnected computer systems. Any kind of computer system or other apparatus adapted for carrying out the methods described herein is suited. A typical combination of hardware and software could be a small portable computing device with a computer program that, when being loaded and executed, controls the device such that it carries out the methods described herein. The same applies to the corresponding comunication partner device, as e.g., the service point or contact point terminal with or wothout a respective backend connection.

The present invention can also be embedded in a computer program product, which comprises all the features enabling the implementation of the methods described herein, and which - when loaded in a computer system - is able to carry out these methods.

Computer program means or computer program in the present context mean any expression, in any language, code or notation, of a set of instructions intended to cause a system having an information processing capability to perform a particular function either directly or after either or both of the following

a) conversion to another language, code or notation;

b) reproduction in a different material form.

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41
04. Juli 2000

C L A I M S

1. A client-related shopping communication method in which product information is provided to a client of said shop via an electronic shopping system, characterized by the steps of

a. importing (210) product information into a client-related mobile computing device (11), and

b. storing (255) said product information or a reference to it for retrieving (270,275,290) it after import.

2. The method according to claim 1 further comprising at least one of the following steps:

c. importing (210) sales-related additional information for said product,

d. importing (225) delivery-related information for said product

e. creating (275) an order for said product,

f. sending (280,296) said order for said product to the associated vendor,

g. initiate (285,298) a payment for said product.

3. The method according to claim 1 further comprising the step of evaluating (292,294) said product information with respective information associated to products from other vendors

4. The method according to claim 1 in which a standardized interface is used for implementing the multiplicity of steps.

5. The method according to claim 1 in which a hardware interface is used between the client computing device (11)

and the vendor which is adapted to the functionality of the inte rf

6. A mobile computing device (11) comprising means (10,20) for importing multiple, vendor-specific product information, and means for
storing (255) said product information or a reference to it for retrieving (270,275,290) it after import.

7. The device according to the preceding claim further comprising means for performing at least one of the steps according to claim 2.

8. A shop-related shopping communication method in which product information is provided to a computing device (11) related to a client, characterized by the steps of

a. providing an export of multiple, vendor-specific, product information into said client-related computing device (11).

9. The method according to the preceding claim further comprising at least one of the following steps:

b. exporting sales-related additional information for said produ ct

c. exporting delivery-related information for said product,
d. receiving and processing an order for said product,
e. receiving a payment for said product.

10. The method according to claim 8 or claim 4 in which XML is used for programming.

11. A computing device having means for performing the method of anyone of the claims 8 to 10.

12. The device according to the preceding claim which is connectable to a goods database (ERP) of a warehouse.

13. A computer program comprising code portions adapted for performing the steps according to the method according to one of the claims 1 to 5 or 8 to 10 when said program is loaded into a computer device.

14. A computer program product stored on a computer usable medium comprising computer readable program means for causing a computer to perform the method of any one of the claims 1 to 5 or 8 to 10.

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41
04. Juli 2000

# A B S T R A C T

The present invention relates to computer-aided shopping systems. With the help of a client-related mobile computing device (11) having an adequate interface (20) to a product data source (16) the client is enabled to easily gather any relevant product information including technical information about the product or variations of it, he can store said information without any purchase decision necessary to be taken in the shop and he is enabled to retrieve said information including technical information for example at home by exporting the product information via a standard interface (20) onto his personal desktop PC for further analysis or revision. Thus, the advantages of real shopping are combined with the advantages of any kind of virtual shopping. (Fig. 1)

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(Drawings) BEST AVAILABLE COPY

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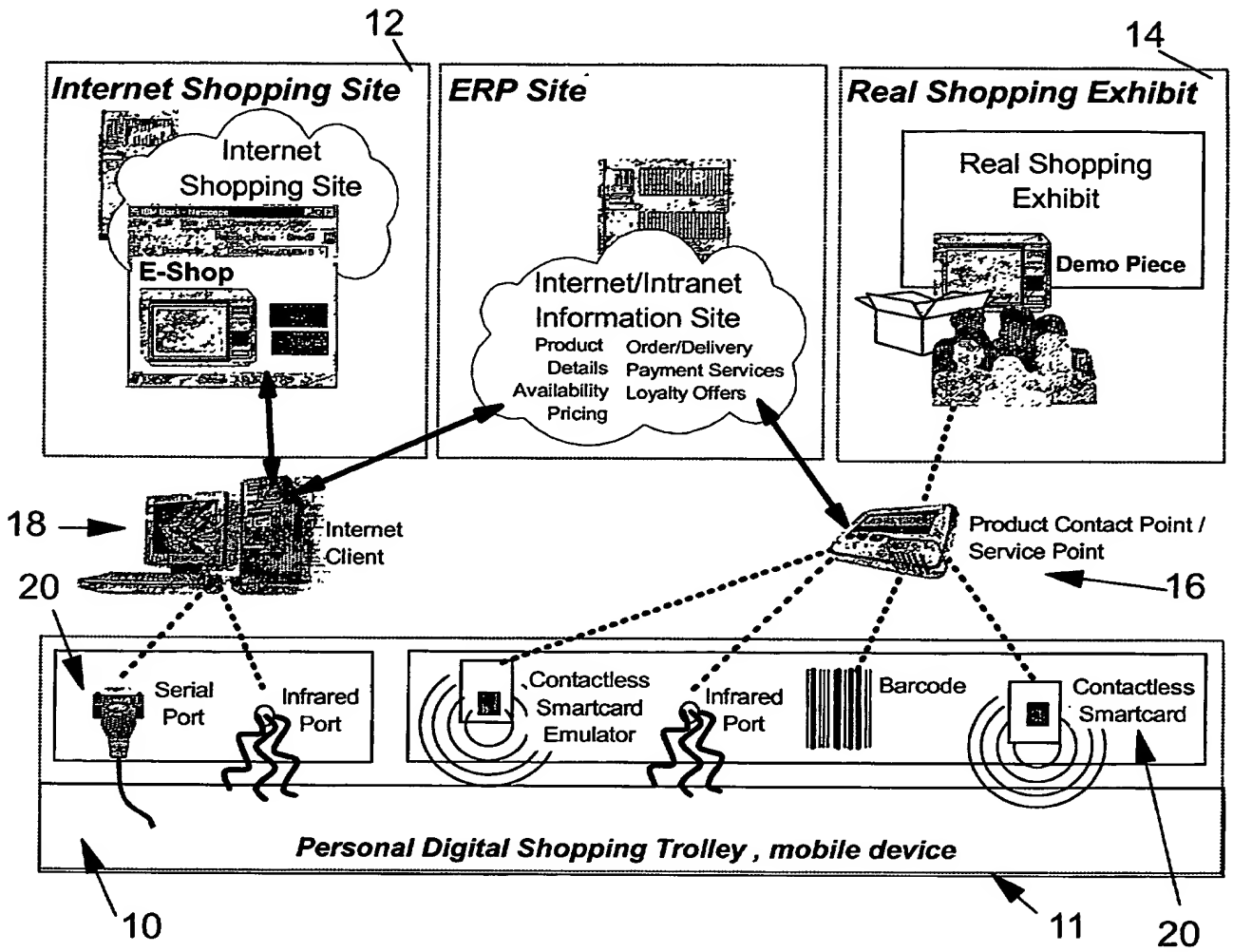


FIG.1

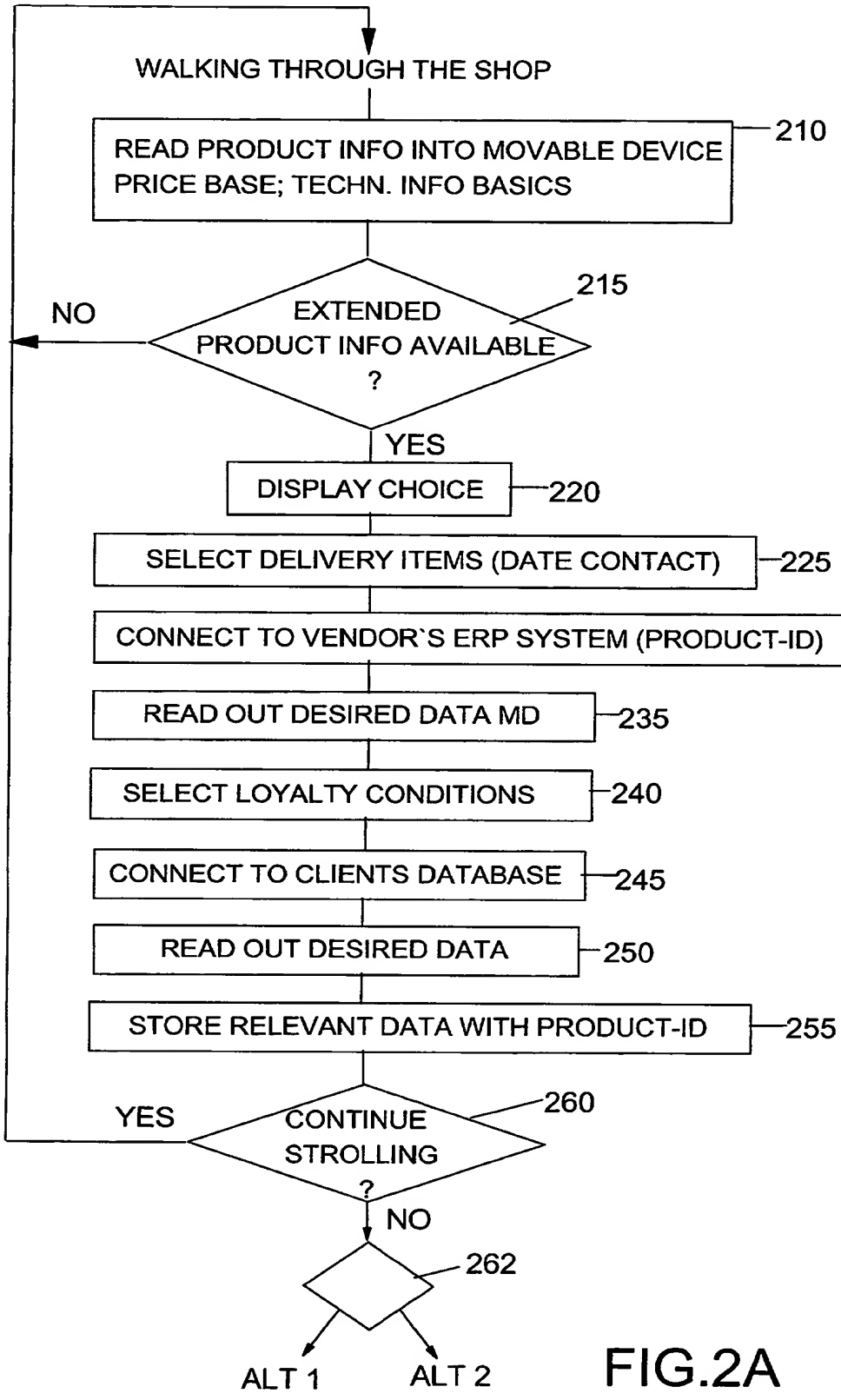
WALKING THROUGH THE SHOP
READ PRODUCT INFO INTO MOVABLE DEVICE PRICE BASE; TECHN. INFO BASICS
210
EXTENDED PRODUCT INFO AVAILABLE ?
215
NO
YES
DISPLAY CHOICE
220
SELECT DELIVERY ITEMS (DATE CONTACT)
225
CONNECT TO VENDOR`S ERP SYSTEM (PRODUCT-ID)
230
READ OUT DESIRED DATA MD
235
SELECT LOYALTY CONDITIONS
240
CONNECT TO CLIENTS DATABASE
245
READ OUT DESIRED DATA
250
STORE RELEVANT DATA WITH PRODUCT-ID
255
CONTINUE STROLLING ?
260
YES
NO
262
ALT 1
ALT 2

FIG.2A

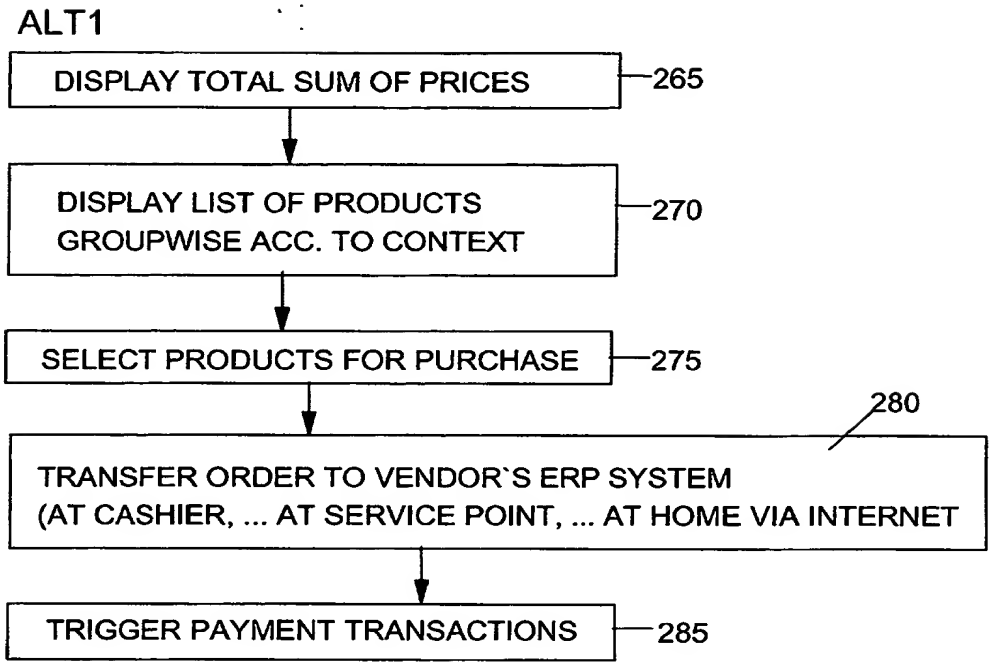
ALT1
DISPLAY TOTAL SUM OF PRICES
265
DISPLAY LIST OF PRODUCTS GROUPWISE ACC. TO CONTEXT
270
SELECT PRODUCTS FOR PURCHASE
275
280
TRANSFER ORDER TO VENDOR`S ERP SYSTEM (AT CASHIER, ... AT SERVICE POINT, ... AT HOME VIA INTERNET
TRIGGER PAYMENT TRANSACTIONS
285

FIG.2B

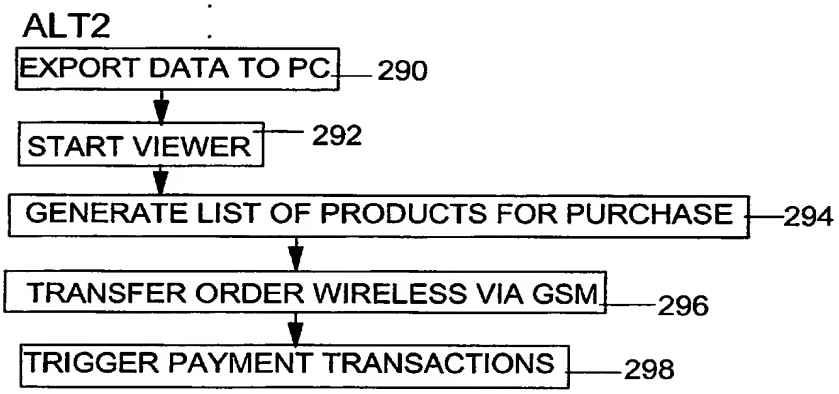
ALT2
EXPORT DATA TO PC
290
START VIEWER
292
GENERATE LIST OF PRODUCTS FOR PURCHASE
294
TRANSFER ORDER WIRELESS VIA GSM
296
TRIGGER PAYMENT TRANSACTIONS
298

FIG.2C

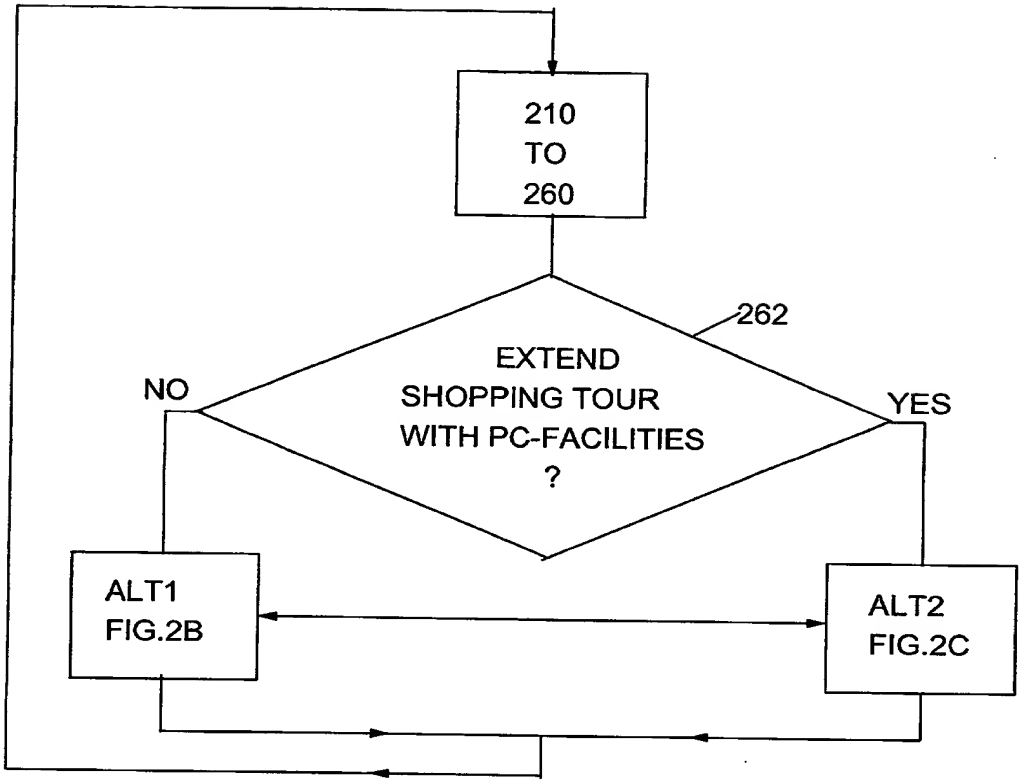
210
TO
260
262
EXTEND
SHOPPING TOUR
WITH PC-FACILITIES
?
NO
YES
ALT1
FIG.2B
ALT2
FIG.2C

FIG.3

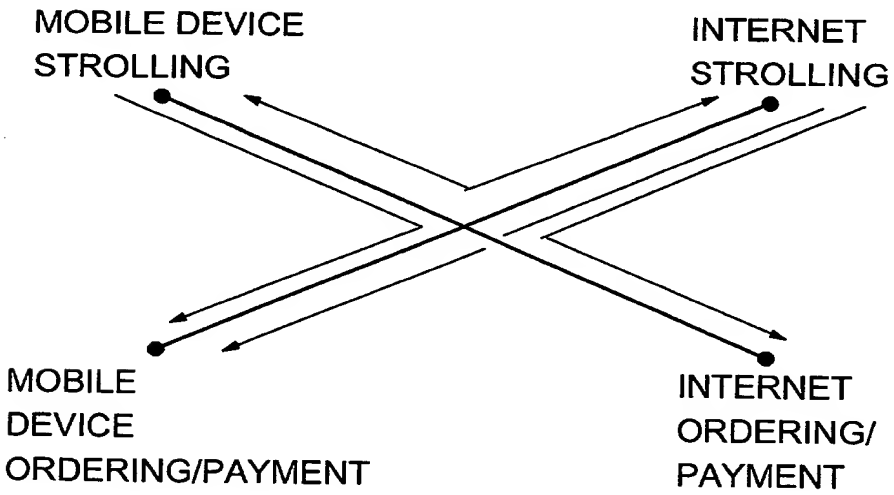
MOBILE DEVICE
STROLLING
INTERNET
STROLLING
MOBILE
DEVICE
ORDERING/PAYMENT
INTERNET
ORDERING/
PAYMENT

FIG. 4